

C. REMARKS

The Claims are 27-49, with Claims 27, 32, 36, 39, 40 and 45 being independent. Claim 1 has been cancelled without prejudice or disclaimer of the subject matter. Claims 2, 3, 5, 6, and 13-16 have been rewritten as new Claims 28-31 and 36-39 to better define the present invention. Claims 28-31 are dependent on Claim 27. Independent Claims 36 and 39 contain the same temperature sensor location limitation as Claim 27. Former withdrawn claims 7-12 and 17-26 have been rewritten as new Claims 32-36 and 40-49. Claim 32 has been revised to be more consistent with Claim 27. Rejoinder of claims 32-36 and 40-49 is requested under MPEP § 821.04. Reconsideration of the claims respectfully requested.

Former claims 1, 2, 16 and 27 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Application Publication No. 2003/0037730 A1 (Yamasaki et al.) in view of U.S. Patent No. 6,238,488 B1 (Fujita et al.). Former claims 3, 5 and 13-15 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Yamasaki and Fujita, in view of U.S. Patent No. 6,155,289 A (Carlsen et al.). Former claim 6 stands rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Yamasaki and Fujita, in further view of U.S. Patent No. 5,417,770 A (Saitoh et al.).

With regard to Claim 27, the Examiner contends that “[i]t would have been obvious to one of ordinary skill in that art at the time the invention was made to replace Yamasaki’s temperature thermocouple . . . with Fujita’s thermocouple . . . , and for Yamasaki to optimize the dimension(s) of his apparatus.” Applicants respectfully traverse this rejection.

Claim 27 is directed to a deposited-film formation apparatus with a temperature sensor for detecting the heat of reaction generated when the material gas fed

into the chamber reacts the oxygen that is present in the air entering from outside the apparatus. In one important aspect, Claim 27 recites that the temperature sensor is provided 5cm to 20cm on the side downstream to the piping connection part. This is to permit accurate detection of the heat of reaction generated during any leakage. Leaks tend to occur because of vibration or deterioration in the O-rings due to oil mist. See specification, page 21, lines 1-6. If the temperature sensor is located too close to the piping connection part, then even small leaks can cause excess temperature rise in the sensor or the reaction may not occur until the gasses pass the sensor. Little temperature rise would be noted. At the same time, if the temperature sensor is located too far from the piping connection part, the leak reaction may finish too quickly for accurate detection, since little heat is detected.

In Fujita, leaks would tend to occur where protective pipe 50 and side wall of manifold 16 are sealed hermetically. Thermocouple 48E, for example, is spaced upstream of the seal within chamber 12 and is poorly positioned to measure a leak downstream of its position at the seal. Likewise, Yamasaki employs a sealing member 58 in Fig. 5 which can leak. The thermocouple 64 is not positioned to accurately measure leaks at seal 58 since it is within a high temperature trap 56.

Applicants submit that a combination of Yamasaki and Fujita would fail to teach a temperature sensor disposed 5cm to 20cm on the side downstream to the piping connection part. Neither reference recognizes the problem of leakage at the evacuation piping connection part, and the resulting need for accurate detection. Indeed, the references are altogether silent as to any preferred position for the temperature sensor. Thus, since the combination of Yamasaki and Fujita fails to recognize the problem of locating the temperature sensor the proper distance from the piping connection part for

accurate detection, it cannot teach or suggest the claimed solution. The unobviousness involved in the discovery of the reason for a problem can impart patentability on the solution thereto. In re Linnert, 309 F.2d 498 (CCPA 1962); In re Robert, 470 F.2d 1399 (CCPA 1973). In contrast to Applicants' invention, no suggestion has been found in either Yamasaki or Fujita to solve a leakage problem by positioning a temperature sensor at the claimed location. Therefore, Claim 27 is patentable over the combination of Yamasaki and Fujita.

Former claims 2, 3, 5 and 6, now Claims 28-31, have been amended to depend from Claim 27, and are each believed to be allowable by virtue of at least the arguments advanced above with regard to Claim 27.

Former claims 13-16, now Claims 36-39 also recite the feature of the temperature sensor provided at a position 5 cm to 20 cm on the side downstream to the piping connection part. Support for these changes is located, inter alia, at page 21, lines 24-26 of the specification.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and the allowance of the present application.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Peter Saxon", written over a horizontal line.

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